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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/571,878	01/05/2007	Rongxun Wang	09548.1020USWO	6907
52835 7590 06/18/2009 HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902			EXAMINER LAUX, JESSICA L	
			ART UNIT 3635	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/571,878	<b>Applicant(s)</b> WANG, RONGXUN	
	<b>Examiner</b> JESSICA LAUX	<b>Art Unit</b> 3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 20-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/22/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-23-,25-26,31-32,35-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21, 23 recites the limitation "the bottom foot". There is insufficient antecedent basis for this limitation in the claim.

Claims 22, 25-26 recites the limitation "said/the supporting slope". There is insufficient antecedent basis for this limitation in the claim. Claim 21 refers to a left supporting slope and a right supporting slope, therefore it is unclear what the limitation "said supporting slope is referring to (i.e. is a slope different than the right or left, is it the right and the left, is it the right or left, etc.).

Claims 31, 32 recites the limitation "at the intersection between the walls". There is insufficient antecedent basis for this limitation in the claim. Claim 30 merely provides support for a wall not multiple walls having an intersection.

Claim 35 is indefinite because it is not clear how the block engages with the top surface of the girder (as in line 7) when the projecting piece is provided on the top surface of the girder (line 3); and how there is a groove on the bottom surface of the girder engaged with the top surface of the block (lines 8-11) when the block engages

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the top surface of the girder (line 7). The claim will be examined as best understood, however appropriate clarification is required.

Claim 36 recites the limitation "the same layer" in line 3; "in vertically layers" in line 4; "the lower isolation sub-layer" in line 5; "the upper sub-layer, in lines 6-7; and "the joint between..." in line 7. There is insufficient antecedent basis for all of these limitations in the claim rendering the claim indefinite as it is not clear what the metes and bounds of the claim are and how all the claimed components are structurally related. Accordingly the claim will be examined as best understood.

Claim 37 is indefinite because it is not clear how the block can have the shape of a downward recess as claimed in claim 33 and have the shape of an elongated plate as in claim 37. Accordingly the claim will be examined as best understood, however appropriate clarification is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 20-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Bouchard et al (6108995).**

Claim 20. Bouchard discloses a block for forming a wall, wherein a plurality of analogous blocks being overlapped staggeringly and continuously in the wall, characterized in that,

said block being a longitudinally profiled member, and including a top surface, a bottom surface and two end surfaces; the cross section of the block being substantially of a shape of downward-flared recess (as seen in for example figure 2 or 14-15);

the top surface of said block having a mid ridge (generally where 15 and 18 meet as seen in figure 2) higher than two sides (generally 9, 11 of figure 2) of the surface so that a left supporting slope (generally 18) and a right supporting slope (generally at 15) being formed;

said upper surface and bottom surface being formed such that: when the block being overlapped with a analogous block thereunder to form the wall, the top surface of the underlying block being engaged with the bottom surface of the upper block, the left and right supporting slopes being used as a blocking structure and interlocking the vertically adjacent blocks (as seen in for example figures 14-15);

the blocks being shaped and sized such that: when three analogous blocks being overlapped vertically, the vertical distance between the top of the ridge of the bottommost block and the bottom foot of the uppermost block being less than one third of the height of one block (as seen in the figures).

Claim 21. The block for forming a wall according to claim 20, wherein the blocks being shaped and sized such that: when the three analogous blocks being overlapped vertically, the top of the ridge of the bottommost block being higher than the bottom foot of the uppermost block (as seen in the figures).

Claim 22. The block for forming a wall according to claim 20, wherein said supporting slope including an upper slope portion (generally at 18 or 15) and a lower

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shoulder (generally at 17,35), said shoulder having a top shoulder surface, a bottom shoulder surface, and lateral side surfaces, the top shoulder surface, the upper slope and the mid ridge constituting said top surface, when the block being engaged with an upper analogous block to form the wall, a projecting portion formed by the upper slope portion being engaged with the downward- flared shaped recess of the upper analogous block (as seen in the figures, for example figures 14-15).

Claim 23. The block for forming a wall according to claim 22, wherein on either side of the block, bounded by the mid ridge, the bottom shoulder surface of the shoulder (generally 23) and the bottom foot (generally 22) of the block being on the same plane, the top surface and the bottom surface being parallel to each other, the two end surfaces being parallel to each other, the two lateral side surfaces being parallel to each other, the end surfaces and the lateral side surfaces being vertical to the horizontal plane (as seen in the figures).

Claim 24. The block for forming a wall according to claim 20, wherein the top of the mid ridge being sharp-angle shaped, platform shaped or arc-shaped (as seen in the figures).

Claims 25, 26, 27. The block for forming a wall according to claim 20, wherein at least one of the supporting slope and the downward-flared recess being arranged in a corrugated manner (where the supporting slope 18 has step/corrugation/roughness at 40).

Claim 28. The block for forming a wall according to claim 21, wherein said top surface having a radiation-proof plate (140) thereon, which extends out of the end

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surface, the radiation-proof plates of the adjacent blocks being connected in a manner of end to end, when the wall being formed by the blocks (as seen in figure 27).

Claim 29. The block for forming a wall according to claim 20, wherein the bottom foot on one side of the block being higher than that on the other side (as seen in for example figures 2,14-15, where 9,22 is lower than 11,20).

**Claims 30-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Dwyer et al (1686270).**

Claim 30. Dwyer discloses a block assembly for forming a wall, comprising blocks and auxiliary blocks, wherein said block being a longitudinally profiled member, and including a top surface, a bottom surface and two end surfaces; the cross section of the block being substantially of a shape of downward-flared recess (as seen in the figures);

the top surface of said block having a mid ridge (9) higher than two sides of the surface so that a left supporting slope and a right supporting slope being formed (designated at 14);

said upper surface and bottom surface being formed such that: when the block being overlapped with a analogous block thereunder to form the wall, the top surface of the underlying block being engaged with the bottom surface of the upper block, the left and right supporting slopes being used as a blocking structure and interlocking the vertically adjacent blocks (as seen in figure 5);

the blocks being shaped and sized such that: when three analogous blocks being overlapped vertically, the vertical distance between the top of the ridge of the

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bottommost block and the bottom foot of the uppermost block being less than one third of the height of one block (as seen in figure 5), said blocks being engaged with the auxiliary blocks in the construction of the wall (as seen in figures 1-2).

Claim 31. The block assembly for forming a wall according to claim 30, wherein the auxiliary block comprising three of said blocks, two of them longitudinally opposing to each other and joining, respectively, to the side of the other block; said auxiliary block being provided at the intersection between the walls, being longitudinally engaged with the blocks, and being staggeringly overlapped (as seen in figures 1-2).

Claim 32. The block assembly for forming a wall according to claim 30, wherein the auxiliary block comprising two of said blocks, the longitudinal portion of one block joining to one side of the other block so that the auxiliary blocks being in a shape of L or T (as seen in figure 1); said auxiliary block being provided at the intersection between the walls, being longitudinally engaged with the blocks, and being staggeringly overlapped (as seen in figures 1-2).

**Claims 33, 36-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Dwyer et al (1686270) or Bouchard et al (6108995).**

Claim 33. Both Dwyer and Bouchard disclose a block as claimed (see above) for forming a wall having masonry joints being formed between the adjacent blocks, horizontal masonry joints being formed by the engagement between the top surfaces and the bottom surfaces, vertical masonry joints being formed by the engagement between the end surfaces, the vertically adjacent vertical masonry joints being arranged staggeringly (see figures of both references).



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Claim 36 (as best understood). The wall according to claim 33, as disclosed by Bouchard, wherein an isolation layer (the supporting wall structure as seen in figures 24-31) being provided on one side of the wall, the isolation layer being composed of several isolation sub-layers (as seen in the figures), the isolation sub-layers in the same layer being arranged in a manner of end to end, the isolation sub-layer in vertically layers being in lap joint, the lower isolation sub-layer being interposed between the upper sub-layer and the wall, the joint between the upper isolation sub-layers being staggered with that between the lower isolation sub-layer, an air gap (as seen in figures 26,28-31) being formed between the isolation layer and the wall.

Claim 37 (as best understood). The wall according to claim 33, as disclosed by Dwyer, wherein said block being in a shape of a elongated plate (as seen in the figures), a miter wall being formed by staggeringly overlapping the elongated blocks, a vertical masonry joint being formed by the connection of the end surfaces of two blocks, the vertically adjacent vertical masonry joints being disposed in a stagger manner, the end of the elongated block being supported on a supporting member (as seen in figures 1-2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 34-35 rejected under 35 U.S.C. 103(a) as being unpatentable over Gravier et al (5623797) in view of Dwyer et al (1686270) or Bouchard et al (6108995).**

Claim 34. Dwyer or Bouchard disclose blocks for forming a wall according to claim 33 above, but do not expressly a pillar being provided in the wall, at least one outward-extending piece being provided on said pillar.

Gravier discloses a wall made of blocks including a pillar (generally 74) and having an outward extending piece (the first block extending out from the pillar) provided on the pillar similar to the blocks, where one end surface of the outward-extending piece being engaged with the pillar; the other end surface of the outward-extending piece being engaged with the blocks, the top surface of the outward-extending piece being engaged with the bottom surface of the upper block, the bottom surface of the outward-extending piece being engaged with the top surface of the underlying block, a plurality of outward-extending pieces being arranged separately and orderly on the pillar, said outward-extending pieces being engaged with the staggeringly overlapped blocks adjacent to the pillar.

At the time the invention was made it would have been obvious to modify the wall of Gravier to have a block and outward extending piece with a shape and design as disclosed by Dwyer or Bouchard to provide a wall with blocks having a solid connection. Further it is noted that one of ordinary skill in the art would have had the common sense and ability to pursue known options and substitute one for another to achieve a desired

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and predictable result. Therefore the substitution of one known block design for another is not considered novel but rather obvious.

Claim 35 (as best understood). The wall according to claim 33, wherein a girder (20) being provided in the wall, a projecting piece (as noted in claim 34 above, where the projecting piece is the first block to engage the pillar) being provided on the top surface of the girder, the lower surface of the projecting piece being engaged with the top surface of the girder, the projecting piece extending to the pillar at the nodal point of two adjacent beam/pillar, and engaging with the pillar, the projecting piece being engaged with the downward-flared recess of the block (where a block would be placed above).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSICA LAUX whose telephone number is (571)272-8228. The examiner can normally be reached on Monday thru Thursday, 9:00am to 5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on 571-272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard E. Chilcot, Jr./  
Supervisory Patent Examiner, Art Unit 3635

/J. L./  
Examiner, Art Unit 3635